



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/307,988	05/10/1999	WILLIAM B. TELFAIR	IRV-104.1	5573

7590 12/03/2001

CUMMINGS & LOCKWOOD
FOUR STAMFORD PLAZA
P O BOX 120
STAMFORD, CT 069040120

EXAMINER

SHAY, DAVID M

ART UNIT	PAPER NUMBER
----------	--------------

3739

DATE MAILED: 12/03/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/307,988	Applicant(s)	Telfair
Examiner	d. shay	Group Art Unit	3737

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE —3— MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

Responsive to communication(s) filed on July 3, 2001

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 17-29, 32-44 + 6 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 17-29, 32-44, + 6 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The proposed drawing correction, filed on _____ is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

Art Unit: 3739

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 18, 20, 22, 26-29, 33-35, 37 and 39-44 and 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 and 33 are indefinite because it is unclear in what manner the structure of the laser source means manipulatively affects the method. Claims 26, 27, 34, 41, 42, and 60 are indefinite because they do not positively recite a method step

Claims 20, 22, 28, 29, 35, 39, 40, 43, and 44 are indefinite because it is unclear how the claimed structure manipulatively affect the method.

Claims 17-20, 22, 23, 26-29, 32-35, 37-44 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dingus et al in combination with Lin.. Dingus et al teach a method and as claimed except for the "generating" and "passing..." steps - i.e. directing an infrared beam at tissue to photo mechanically ablate it. Lin teaches the desirability of performing surgery such as PRK with optical parametric amplifiers, which requires the generation of a pump beam and passing it through a non-linear crystal to produce an idler beam. It would have been obvious to the artisan of ordinary skill to generate the infrared beam of Dingus et al with an optical parametric amplifier as taught by Lin, since this provides tunability which would enable the removal of a broad range of tissue by photospallation, or alternatively to employ the photopallation process of Dingus et al to produce the ablation in the surgical method of Lin, *sup*

Art Unit: 3739

since this would cause less damage in the remaining tissue as taught by Dingus et al, and to employ an unfocussed pump beam or pump beam of the claimed wavelength in the parametric oscillator ~~or~~, since this is not critical, is equivalent to employing a focussed pump beam, and provides no unexpected result, and since the pump wavelength is notorious in the art in as much as this constitutes manipulation and is notorious as enabling production of the wavelengths the ~~as~~ used by Lin official notice of which is hereby taken, thus producing a method such as claimed.

Claims 21 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dingus et al in combination with Lin as applied to claims 17-20, 22, 23, 26-35, 32-44 and 60 above, and further in view of Tang et al. Tang et al teach that OPOs can be tuned by rotating the crystal. It would have been obvious to the artisan of ordinary skill to rotate the crystal, since this would enable tuning of the parametric oscillator, thereby enabling the most effective wavelength to ~~the~~ ^{be} ~~the~~ employed, thus providing a method such as claimed.

Applicant argues that the claims have been amended and therefore the indefiniteness rejections have been overcome. The examiner cannot agree for the reasons set forth above in the statement of the indefiniteness rejections.

Regarding the art rejection, applicant first argues that there is no motivation to combine the teachings of Dingus et al and Lin. The examiner must respectfully disagree. As specifically set forth in the art rejection, employing the OPO of Lin in the method of Dingus et al would provide tunability, enabling action on a wider range of tissues, while providing the photospallation method of Dingus et al in the method of Lin would cause less damage to the

Art Unit: 3739

remaining tissues both of these motivations would impell one of ordinary skill to make the combination set forth by the examiner and cannot, be fairly characterized as "picking and choosing" as alleged by applicant.

Regarding the pump pulse duration and repetition rate, it is notorious in the art that the repetition rate of the output pulses of an OPO will be that of the above threshold pump pulses and that the pump pulse width is part of what determines the output pulse width, ^{official notice of} ~~and~~ all of which is hereby taken. Lin specifically calls for an output pulse energy in the claimed range.

Regarding claim 28, the structure recited in this method claim is noted. However, since this structure does not manipulatively affect the method, it is ~~a~~ afforded little patentable weight ~~and~~ with respect thereto.

Regarding claim 32, it is notorious in the art that virtually any pump wavelength can be used to produce any signal or idler, so long as the proper crystal is availavble (see for example equation 2 in column 1 of Tang et al). The reminder of this claim is also taught by the combination.

Regarding claim 34, in additon to the teachings set forth regarding claim 32, the examiner respectfully notes that lasers lase in either TE (Transverse Electrical) or TEM (Transverse Electro Magnetic) modes. Applicant is respectfully invited to produce a teaching of a laser that does not produce a beam that has "a transverse mode structure". Regarding claims 43 and 44, the structural limitation has been treated as set forth above, while the known crystals used in OPOs

Art Unit: 3739

are considered based on a doubly resonant oscillator", since any such crystals could form the basis of a doubly resonant oscillator (its respectfully noted that no such oscillator structure is positively recited in the claim, even assuming a manipulative step could be ascribed thereto).

The examiner being bound to set forth all applicable rejections, the obviousness double patenting rejection cannot be held in abeyance and is hereby repeated. However, on allowance of the instant application, once allowable subject matter is incorporated into all independent claims, the mailing of a notice of allowance will not be delayed once a timely and proper Terminal Disclaimer is filed.

Applicant's arguments filed July 3, 2001 have been fully considered but they are not persuasive. .

Applicant's arguments with respect to claims 21, 36, and 60 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 3739

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to David Shay at telephone number (703) 308-2215.

David Shay:bhw

September 22, 2001

October 4, 2001



DAVID M. SHAY
PRIMARY EXAMINER
GROUP 330